

Project Leader's Report

August 2005

USDA Forest Service - Southern Research Station - 320 Green Street Athens GA 30602 - <http://www.srs.fs.usda.gov/disturbance>

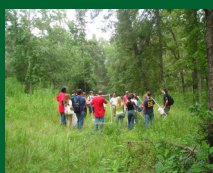


Table of Contents	
Technology Transfer	1
Outreach Activities	1
Meetings/Report	2
Partnerships	2
Science Highlight	2
Safety	3
Visitors	3
Personnel News	3
News from Around the Region	3
Publications	4
Upcoming Events	6
GPRA Accomplishments	8



Outreach Activities:

- Six organized groups with a total of 94 people toured the Brender Demonstration Forest during August. These included five classes from Mercer University in Macon studying biomass and Piedmont natural history and a group with representatives from several organizations to discuss future logger and forestry education classes. This group, made up of representatives from the Georgia Department of Natural Resources Wildlife Division, the Southern Wood Producers Association, Georgia Forestry Commission, and USDA Forest Service and Natural Resource Conservation Service, looked at our current studies and demonstrations.
- Approximately 52 visitors came by the office at Brender Forest for information and 40 people hiked the Hitchiti Interpretive Trail.



Operational logging on the Hitchiti Experimental Forest. Students from Mercer University conducting a biomass study on the Hitchiti Experimental Forest.

Technology Transfer:

- Scott Goodrick visited Rodman Linn at the Los Alamos National Laboratory to begin migrating Rod's coupled atmosphere-fire model, Firetec, to the Southern High Resolution Modeling Consortium's computer systems. Firetec will be used to study fire behavior in southern pine plantations and examine fire behavior associated with different firing techniques common to prescribed fire in the South.

- John Stanturf attended the International Energy Agency (IEA) Tasks 30 and 31 Joint Meeting, Perth, Australia. The meeting field trip brought into focus the extent of soil degradation by salinization caused by the conversion of deep-rooted native forest to shallow-rooted exotic grasses following European settlement of the Western Wheat Belt. Stops on the trip showed the potential of oil mallee alley crops, particularly *Eucalyptus polybractea* to restore the hydrological balance, with the potential to produce bioproducts (activated charcoal and cineole) and biofuel.

- Tom Waldrop met with Chris Post and Jeff Allen of Clemson University to discuss strategy for the hyperspectral image study in light of their discovery that shrubs can be identified to the species level. The project will be able to provide a higher resolution to mapping fuel loads than was anticipated, and the cooperators decided to use existing field data to identify

sources of heavy fuel loads for collecting spectrophotometer readings at the species level for shrubs. These readings will help to distinguish between ericaceous shrubs and shrub species of lesser importance as sources of fuel.



Improving Productivity in Mixed-Species Plantations
Southern Cross University, Ballina NSW Australia, August 5-7 2005

- Stanturf attended the pre-conference IUFRO meeting, Improving Productivity in Mixed-Species Plantations, hosted by Southern Cross University, held at Ballina Beach, New South Wales, Australia. He co-authored a paper given by Brian Lockhart, SRS-4155 (Stoneville) on *Mixed-species plantation prescriptions for the Lower Mississippi Alluvial Valley, USA* (Lockhart, Gardiner, Leininger, and Stanturf).

- Mac Callaham and Ken Outcalt attended the Ecological Society America annual meeting in Montreal, Quebec. Callaham presented a paper on *Long-term land use effects on soil invertebrate communities in Southern Piedmont soils* and Outcalt presented a paper *Response of a mixed longleaf (Pinus palustris) and loblolly pine (Pinus taeda) community to long-term dormant season prescribed burning*.

Outreach Continued:

- Two Mercer University students are doing a special study on invertebrates in Hurricane Creek.
- Richard Reitz planned and helped deliver an activity for the National Boy Scout Jamboree in late July and early August. Approximately 1,000 scouts and their adult leaders attended the activity each day over an eight-day period. During their visit, scouts were led through a forest management scenario where they measured tree diameter and height, identified surface fuel, and determined flame and scorch height for a proposed prescribed burn. After considering weather, fuel, and fire behavior applicable to the scenario, participants determined the duration of time it would take to execute the burn and whether or not this 10-acre prescribed fire could be completed that day. The 10-minute-long activity introduced participants to three general bodies of science (the biology of the red-cockaded woodpecker, chemistry of fire, and the social impacts of smoke) and how these are used when making forestry decisions.



Rick Reitz telling Boy Scouts about prescribed burning.



Scouts measuring tree heights.

Technology Transfer:

- John Stanturf attended the IUFRO World Congress, held in Brisbane, Queensland, Australia. He presented a paper *How managers obtain new technical information: Knowledge acquisition by professional foresters in the United States* and co-authored a paper presented by Emile Gardiner (SRS-4155) *Developing a research and demonstration project initiated by managers: The Sharkey Restoration Site*. These papers were presented in sessions he organized with Palle Madsen (Forest & Landscape-KVL) on "Linking Research, Development, and Implementation in Forestry" and "Dissemination of Forest Restoration and Regeneration Knowledge into Management." John chaired a business meeting for the Working Party 1.17.02 Restoration of Boreal and Temperate Forests.



The Sharkey Restoration Site

Meetings/Reports:

- Gary Achtemeier and Scott Goodrick participated in several conference calls on developing a strategy for acquiring digital fire activity data for the southern states, including a call about Georgia specifically. Generally, there is willingness to continue discussion, but there is no agreement except on the need.
- The IUFRO Board approved the recommendation of the Science Board that IUFRO accept the invitation of IUCN and WWF to be a partner in the Global Forest Landscape Restoration partnership. After discussion, the IUFRO Board decided that sufficient restoration-related activity existed within the current divisional structure that a new Task Force was not needed. John Stanturf has taken on the role of coordinating divisional activity on landscape restoration and will organize an international conference for IUFRO within the next 24 months.

- A special session on environmental uses of poplars and willows will be held at the upcoming 4th International Poplar Conference, to be held in Nanjing, China in June of 2006. John Stanturf has agreed to organize a session "Using poplars and willows to restore, rehabilitate, or remediate degraded ecosystems" that will include papers on phytoremediation, riparian restoration, and wildlife plantings

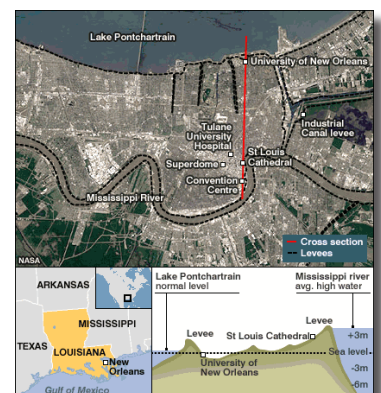
Partnerships:

- Tom Waldrop and Mac Callaham met with Geoff Wang, Billy Bridges, Christina Wells, and Aaron Stottlemeyer, all of Clemson University, to review progress and discuss strategy for Tom's project which uses beetle kills to reach multiple objectives. The project, funded by the Joint Fire Science Program, uses beetle-killed areas on a commercial forest and on a national military park as treatment areas to compare winter burning, summer burning, and mechanical fuel reduction. Response variables include vegetation inside and outside of beetle-killed areas, soil fertility and structure, fire behavior, and fuel reduction. Resulting analyses will provide local managers a better understanding of the tradeoffs between prescribed fire and mechanical fuel reduction in areas with unusually heavy fuel loads. Aaron Stottlemeyer is a Ph.D. student in Forest Resources who has been funded by the RWU and the Joint Fire Science Program grant. His study will include fire intensity impacts on endo- and ectomycorrhizae.

- David Andrews successfully defended his thesis at Clemson University on August 9. David's thesis was funded by the RWU and was an extension of Tom Waldrop's project on using hyperspectral image analysis and landscape ecosystem classification to develop fuel models for the southern Appalachian Mountains. David's work showed that Landsat imagery can be used to delineate high concentrations of ericaceous shrubs, a major source of fuel loading, throughout a four-state study area. He also showed that these shrubs can be identified by species using hyperspectral imagery. David graduated from Clemson with a M.S. degree and has moved to Utah. Congratulations to David.

Science Highlight:

- An extended Science Highlight on the effect of Hurricane Katrina on southern forested ecosystems is available as a separate document due to file size. It is available at www.srs.fs.usda.gov/disturbance.



↓ Visitors

- Bryce Stokes (Washington Office) and Mark Coleman (Savannah River Site) visited John Stanturf to discuss biomass research strategies.
- Mike Rauscher (Asheville) visited Ken Outcalt and Rick Reitz for further discussions on the Southern Fire Encyclopedia.

↓ Personnel News:

- We bid farewell to Susie Bennett, student worker in Callaham's lab. Since her graduation from UGA, Susie will be moving on to her position as a teaching assistant for the UGA Tropical Ecology Course, which is a semester-long course where students (and instructors) reside at the UGA Ecolodge San Luis and Research Station, in Costa Rica. We can't figure out why Susie would want to leave her glamorous life in the dirt-picking industry for something like that! Good luck Susie!

- Summer employees of the Appalachian and Piedmont Team at Clemson: Caleb Bagwell, Tyler Jones, Jeff Vissage, and James Douglas are leaving to return to school. All made significant contributions to the National Fire and Fire Surrogate Study. Caleb will be entering Clemson University as a freshman in Forest Resource Management. Jeff and James will be seniors at Clemson this year, also in Forest Resource Management. Tyler will return to Appalachian State University as a senior in anthropology. In addition to the fire surrogate study, these students were introduced to the team's work on hyperspectral image analysis for fuel classification and using beetle kills for restoration or management objectives.

- Mac Callaham was granted adjunct faculty status in the Ohio State University Department of Evolution, Ecology, and Organismal Biology.

- John Stanturf has taken on new duties for IUFRO. Division 1 Silviculture has been reorganized and John will assume the coordinating role of Research Group Leader 1.01.00 Temperate and Boreal Silviculture. He continues as Deputy Working Party leader of the new WP 1.05, Restoration of Degraded Sites.

- The KnowForAlp initiative, a network of 19 institutions in the Alpine Space in Europe, is planning an international conference on knowledge management, to be held the week of 23-27 October 2006. John Stanturf has been invited to serve on the scientific organizing committee for the meeting.

↓ News from Around the Region:

- Forest Service Chief Dale Bosworth has selected Michael T. Rains as acting director for the North Central Research Station, headquartered in St. Paul, Minnesota. Rains currently serves as the Director of the Northeastern Research Station headquartered in Newtown Square, Pennsylvania, and will continue in that capacity. Over the next year, he will lead an effort to bring together the North Central and Northeastern stations into a new Northern Research Station serving a 20-state region in the Northeast and Midwest. The headquarters will be in Newtown Square, Pennsylvania. Existing offices will remain in operation so movement of current employees will be minimal.



- Marcia Patton-Mallory, Rocky Mountain Research Station Director, has accepted a new position as Forest Service Biomass Coordinator, reporting to the Office of the Chief. The position has inter-deputy area responsibilities and will administratively report to the Deputy Chief for Research and Development with a duty station of Fort Collins, Colorado. In this position Patton-Mallory plays a role in the Forest Service's portion of the USDA response to the new Energy Bill by working across Mission Areas in the Department of Agriculture to help implement the renewable provisions of the new energy legislation. In addition to helping integrate existing biomass efforts across Forest Service Deputy Areas and within USDA, she will be the primary agency policy lead with the Department of the Interior, Department of Energy, and the Western Governor's Association on biomass energy policy issues.

- The Raccoon Ecological Management Area, a 16,000-acre private forest in southeastern Ohio that contains the 2,600 acre Vinton Furnace Experimental Forest, could be sold as part of a reorganization of the former MeadWestvaco paper group. The forest is famous for long-term research on oak forests and how they are affected by fire, storm, and harvesting. The Northeast Station has carried out research on the site under agreements with Mead Corp. over the past 40 years.

- A new Animal and Plant Health Inspection Service (APHIS) regulation goes into effect on September 15, requiring the treatment of all solid wood packing material coming into this country. Solid wood packing material (SWPM) is used to stabilize much of the cargo being imported into the United States. SWPM takes the form of wood pallets, dunnage or other wood material

that holds cargo in place. SWPM is the major pathway of invasive insects entering the United States, which stow away inside the wood. Requiring methyl bromide or heat treatment will significantly mitigate this pathway because these treatments kill the insects. This new regulation is being implemented by the United States, Canada, and Mexico simultaneously. Forest Service staff from Forest Health Protection and Research and Development worked on this regulation, providing technical assistance to APHIS and the international community



What a welcome Hurricane Katrina gave Chuck Meyers to the Southern Region! Meyers was just appointed the new Regional Forester.



Photo of a hurricane from NOAA..

↓ Safety:



Could anyone live through this? Only with seatbelts and air bags. Dexter Bland was lucky that he had both in this head-on collision.



FY 2005 Publications: (*denotes new publication this month)

Refereed Journals and Book Chapters

Achtemeier, Gary L. 2005. Planned Burn-Piedmont. A local operational numerical meteorological model for tracking smoke on the ground at night: model development and sensitivity tests. *International Journal of Wildland Fire* 14: 85-98.

Baumhauer, Madsen, P., **Stanturf, J.A.** 2005. Regeneration by direct seeding—a way to reduce costs of conversion. Chapter 22 in Stanturf, J.A. and Madsen, P., eds. *Restoration of Temperate and Boreal Forests*. CRC Press, Boca Raton. P. 349-354.

Brockway, D.G., **Outcalt, K.W.**, Tomczak, D.J., Johnson, E.E. 2005. Restoring longleaf pine forest ecosystems in the southern U.S. Chapter 32 in Stanturf, J.A. and Madsen, P., eds. *Restoration of Temperate and Boreal Forests*. CRC Press, Boca Raton. P. 501-519.

Cunningham, P., **Goodrick, S.**, Hussaini, M.Y., Linn, R. 2005. Coherent vortical structures in numerical simulations of buoyant plumes from wildland fires. *International Journal of Wildland Fire* 14: 61-75

Gardiner, Emile S., **Stanturf, John A.**, Schweitzer, Callie J. 2004. An afforestation system for restoring bottomland hardwood forests: biomass accumulation of Nuttall oak seedlings interplanted beneath eastern cottonwood. *Restoration Ecology* 12(4): 525-532.

Haight, Robert G., **Cleland, David T.**, Hammer, Roger B., Radeloff, Volker C., Rupp, T. Scott. 2004. Assessing fire risk in the wildland-urban interface. *Journal of Forestry* 102(7): 41-48.

Hoadley, Jeanne L., Westrick, Ken, Ferguson, Sue A., **Goodrick, Scott L.**, Bradshaw, Larry, Werth, Paul. 2004. The effect of model resolution in predicting meteorological parameters used in fire danger rating. *J. Applied Meteorology*, 43(10): 1333-1347.

Jones, P.D., Schimleck, L.R., Peter, G.F., Daniels, R.F., **Clark, A. III.** 2005. Nondestructive estimation of *Pinus taeda* L. wood properties for samples from a wide range of sites in Georgia. *Canadian J. Forest Research* 35: 85-92

Kennard, D. K. 2004. Commercial tree regeneration 6 years after high-intensity burns in a seasonally dry forest in Bolivia. *Canadian Journal of Forest Research* 34(11): 2199-2207.

Kennard, D. K., Rauscher, H. M., Flebbe, P. A., Schmoldt, D. L., Hubbard, W. G., Jordin, B., Milnor, W. H. 2005. Using hyperdocuments to manage scientific knowledge: the prototype Encyclopedia of Southern Appalachian Forest Ecosystems. *Forest Ecology and Management*, 207 (1-2) 201-213.

Kennard, D.K., Outcalt, K.W., Jones, D., and O'Brien, J.J. 2005. Comparing techniques for estimating flame temperature of prescribed fires. *Fire Ecology* 1 (1): 75-93.

Kennard, D.K. and Putz, F.E. 2005. Differential responses of Bolivian timber species to prescribed fire and other gap treatments. *New Forests* 30(1): 1-20.

Liu, Y.-Q. 2005. Enhancement of the 1988 Northern U. S. drought due to wildfires, *Geophy. Res. Let.*, 32 (No. 10).

Long, Alan J., **Wade, Dale D.**, Beall, Frank C. 2004. Managing for fire in the interface: Challenges and opportunities. Chapter 13 in Vince, Susan W., Duryea, Mary L., Macie, Edward A., Hermansen, L. Annie, eds., *Forests at the Wildland-Urban Interface*. CRC Press, Boca Raton. P. 201-223.

Paladino, J.C.L., Guapyassú, M.S., Platais, G.H. 2005. Restoration practices in Brazil's Atlantic rainforest. Chapter 27 in Stanturf, J.A. and Madsen, P., eds. *Restoration of Temperate and Boreal Forests*. CRC Press, Boca Raton. P. 5409-422.

Stanturf, J.A. 2005. What is forest restoration? Chapter 1 in Stanturf, J.A. and Madsen, P., eds. *Restoration of Temperate and Boreal Forests*. CRC Press, Boca Raton. P. 3-11.

Stanturf, J.A., Conner, W.H., Gardiner, E.S., Schweitzer, C.J., and Ezell, A.W. 2004. Recognizing and overcoming difficult site conditions for afforestation of bottomland hardwoods. *Ecological Restoration* 22(3): 183-193. (Counted in last year).

Stanturf, J.A. and Madsen, P. 2005. *Restoration of Temperate and Boreal Forests*. CRC Press, Boca Raton. 569 pp.

Stanturf, J.A. and Madsen, P. 2005. Preface in Stanturf, J.A. and Madsen, P., eds. *Restoration of Temperate and Boreal Forests*. CRC Press, Boca Raton. P. ix-xvii.

Van Lear, D.H. and Wurtz, T.L. 2005. Cultural practices for restoring and maintaining ecosystem function. Chapter 11 in Stanturf, J.A. and Madsen, P., eds. *Restoration of Temperate and Boreal Forests*. CRC Press, Boca Raton. P. 173-192.

Proceedings and Reports

Achtemeier, G., S. Goodrick and Y.-Q. Liu. 2005. A coupled modeling system for connecting prescribed fire activity data through CMAQ for simulating regional scale air quality, Proc. of Eastfire, Fairfax, VA, 11-13 May 2005. (Available on CD-ROM)

Brenner, J. and **S. Goodrick.** 2005. Florida's Fire Management Information System, Proc. of Eastfire, Fairfax, VA, 11-13 May 2005. (Available on CD-ROM)

Brockway, Dale G.; **Outcalt, Kenneth W.**; Guldin, James M.; Boyer, William D.; Walker, Joan L.; Rudolph, D. Craig; Rummer, Robert B.; Barnett, James P.; Jose, Shibu; Nowak, Jarek. 2005. Uneven-aged management of longleaf pine forests: a scientist and manager dialogue. Gen. Tech. Rep. SRS-78. Asheville, NC: U.S.Department of Agriculture, Forest Service, Southern Research Station. 38 p.

Callaham, M.A. Jr. 2005. Soil biology and fire in southern ecosystems. Encyclopedia of Southern Fire Science, <http://www.forestencyclopedia.net> USDA Forest Service, Southern Research Station.

Clark, Alexander III and Daniels, Richard F. 2004. Wood quality of slash pine and its effect on lumber, paper, and other products. In Dickens, E.D., Barnett, J.P., Hubbard, W.G. and Jokela, E.J. eds., *Slash Pine: Still Growing and Growing!* Proceedings of the Slash Pine Symposium held April 23–25, 2002, Jekyll Island, Georgia. USDA Forest Service Southern Research Station; General Technical Report SRS-76, Asheville, NC; pp. 61-65.

DiCosty, R. J. 2005. Fire effects on soil organic matter. Encyclopedia of Southern Fire Science, <http://www.forestencyclopedia.net> USDA Forest Service, Southern Research Station.

Fowler, C. 2004. *Fire education programs in the Southern United States*. Encyclopedia of Southern Fire Science <http://www.forestencyclopedia.net>. USDA Forest Service, Southern Research Station.

Fowler, C. 2004. *Human health and forest fires in the Southern United States*. Encyclopedia of Southern Fire Science <http://www.forestencyclopedia.net>. USDA Forest Service, Southern Research Station.

Fowler, C. 2004. *Effects of Fire on cultural resources in the Southern United States*. Encyclopedia of Southern Fire Science <http://www.forestencyclopedia.net>. USDA Forest Service, Southern Research Station.

Fowler, C. 2004. *A History of human-caused fires in the Southern United States*. <http://www.forestencyclopedia.net>. Encyclopedia of Southern Fire Science. USDA Forest Service, Southern Research Station.

Goodrick, S. and P. Cunningham. 2005. Numerical modeling of horizontal vortices forced by wildland fires, Proc. of Eastfire, Fairfax, VA, 11-13 May 2005. (Available on CD-ROM)

Hanley, D., P. Cunningham and S. Goodrick. 2005. Interactions between a wildfire and sea breeze front, Proc. of Eastfire, Fairfax, VA, 11-13 May 2005. (Available on CD-ROM)

Hao, X., J. Qu, and **Y.-Q. Liu**. 2005. Burned area mapping in eastern United States using MODIS measurements, Proc. of Eastfire, Fairfax, VA, 11-13 May 2005. (Available on CD-ROM)

Helmers, J. and **Fowler, C.** 2004. *Fire in the Wildland-Urban Interface*. Encyclopedia of Southern Fire Science <http://www.forestencyclopedia.net>. USDA Forest Service, Southern Research Station.

Liu, Y.-Q., R. Fu, and R. Dickinson. 2005. The effects of biomass burning on the South American monsoon (extended abstract), in: The Atmospheric Sciences and Air Quality Conference (ASAAQ 2005), San Francisco, April 27-29, 2005, American Meteorological Society, http://ams.confex.com/ams/ASAAQ2005/techprogram/paper_92151.htm.

Liu, Y.-Q., G. Achtemeier, and S. Goodrick. 2005. Simulation and experiment of air quality effects of prescribed fires in the southeast, Proc. of Eastfire, Fairfax, VA, 11-13 May 2005. (Available on CD-ROM)

Liu, Y.-Q., J. J. Qu, X. Hao, and W. Wang. 2005. Improving fire emission estimates in the eastern United States using satellite-based fuel loading factors, Proc. of Eastfire, Fairfax, VA, 11-13 May 2005. (Available on CD-ROM)

Myers, R., **Wade, D.**, and Bergh, C. 2004. Fire management assessment of the Caribbean pine (*Pinus caribea*) forest ecosystems on Andros and Abaco Islands, Bahamas. GFI Publication no. 2004-1. The Nature Conservancy, Arlington, VA. 18 pp.

Outcalt, Kenneth W. 2004. Longleaf pine restoration the Hitchiti Experimental Forest. The Southern Restorationist 4(2): 4. (Summer/Fall 2004 issue of the Newsletter of the Coastal Plain Chapter, Society for Ecological Restoration; <http://ser-coastalplains.org/pdfdoc/Summ%20Fall%2004.pdf>)

Qu J., X. Hao, R. Yang, S. Dasgupta, S. Bhoi, M. Kafatos, **Y.-Q. Liu, G. Achtemeier**, R. Riebau, P. Coronado. 2005. Bridging EOS remote sensing measurements and fire emissions, smoke dispersion, and air quality DSS in the eastern US, Proc. of Eastfire, Fairfax, VA, 11-13 May 2005. (Available on CD-ROM)

Reitz, Richard D. and Geissler, George L. 2003. Community advisor—Firewise. In Proc. Society of American Foresters National Convention, 25-29 October 2003, Buffalo, NY. P. 63-72.

Stanturf, J.A., Gardiner, E.S., Conner, W., Outcalt, K., Guldin, J. 2004. Restoration of southern forest ecosystems. In Rauscher, H.M., Johnsen, K., eds. Southern Forest Science: Past, Present, Future. USDA Forest Service Southern Research Station, Asheville, NC; General Technical Report SRS-75; pp. 123-131.

Wang, W., J. Qu, X. Hao, and **Y.-Q. Liu**. 2005. A comprehensive approach for detecting active fire over the southeastern United States, Proc. of Eastfire, Fairfax, VA, 11-13 May 2005. (Available on CD-ROM)

Zhang, Yangjian. 2004. Identification of the wildland-urban interface at regional and landscape scales. Ph.D. dissertation, University of Georgia; 116 pg. (Performed under cooperative research agreement # SRS-02-CA-11330136-182, Wimberly and Stanturf).

Abstracts and Posters

Callaham, M. A., Jr., P. J. Hanson, and D. E. Todd, Jr. 2005. Tracing 14C labeled leaf litter through oak-hickory forest soils with native or introduced earthworms. Proceedings of Soil Ecology Society Meetings, Argonne National Laboratory, Argonne, IL, May 2005.

***Callaham, Mac**, Daniel Richter, Michael Hofmockel. 2005. Long-term land use effects on soil invertebrate communities in Southern Piedmont soils. In: 2005 Preliminary Meeting Program (ESA), 90th Annual Meeting (ESA), 7-12 Aug 2005, Montreal, Canada, <http://abstracts.co.allenpress.com/pweb/esa2005/document/?ID=51949>. [Poster abstract]

Cunningham, P. and **S. Goodrick**. 2005. High resolution numerical models for smoke transport in plumes from wildland fires, Eastfire, Fairfax, VA, 11-13 May 2005

DiCosty, R., Kelley, S., Rials, T., **Stanturf, J.A.** 2004. Soil black carbon levels and soil organic matter quality under interval prescribed burning in the southeastern United States. Eurosoil 2004, 4-12 September, Freiburg, Germany [Poster]

DiCosty, Ralph and Stanturf, John. 2004. Fifty years of prescribed burning: effects on soil organic matter composition and podzolization in a Spodosol soil profile in the Southeastern United States. Soil Science Society America Annual Meeting Abstracts.

***Fowler, C.T.**, Hubbard, W., **Kennard, D.**, Rauscher, M., Jordin, B., Gaines, J., Morgan, P., Gollberg, G., Masters, R., Bruce, A., Hiers, K., Brownlie, D. 2005. Delivering science information and technology through the Encyclopedia of Southern Fire Science and the Southern Fire Portal. International Forestry Review 7(5): 340. [Abstract]

Gardiner, Emile S., **Stanturf, John A.**, Hamel, Paul B., and Leininger, Theodor D. 2004. Early stand development, carbon sequestration, and wildlife use under conventional versus intensive afforestation practices in the Lower Mississippi Alluvial Valley. 22nd Session International Poplar Commission, The Contribution of poplars and willows to sustainable forestry and rural development, Santiago, Chile 29 Nov-2 Dec 2004; p. 96 [Abstract]

Goodrick, Scott, Liu, Yongqiang, and Stanturf, John. 2004. Spatial modeling of drought using artificial neural networks. In Impacts of the Drought and Heat in 2003 on Forests, *Berichte Freiburger Forstliche Forschung*, Heft 57: 18.

Goodrick, S. 2005. Spatial modeling of weather parameters for fire danger rating system using artificial neural networks, Eastfire, Fairfax, VA, 11-13 May 2005

***Jordin, B.**, Hubbard, B., Ruscher, M., **Fowler, C.T., Kennard, D.** 2005. Using a content management system to communicate science to the public. *International Forestry Review* 7(5): 345. [Abstract]

Liu, Y., G. Achtemeier, and S. Goodrick. 2004. Air quality effects of prescribed fires simulated with CMAQ. The Third Models-3 Workshop, Chapel Hill, NC, 18-20 Oct 2004. (Extended abstract, paper 6.5, pp 1-4, available from http://www.cmascenter.org/html/2004_workshop/abstracts_presentations.html.)

Liu, Yongqiang, Stanturf, John, and Goodrick, Scott. 2004. Modeling ecosystem water stress and fire risk under drought conditions. In *Impacts of the Drought and Heat in 2003 on Forests*, Berichte *Freiburger Forstliche Forschung*, Heft 57: 56.

Liu, Y., Stanturf, J.A., Tian, H., and Qu, J. 2005, CO₂ emissions from wildfires in the U.S.: Present status and future trends. In abstracts of the Third USDA Symposium on Greenhouse Gases and Carbon Sequestration in Agriculture and Forestry, Baltimore, MD, March 21-24, 2005, P.162

Stanturf, Bland, Samuelson, Leininger, Burke. 2004. Three-year growth response of four clones of eastern cottonwood (*Populus deltoides* Bartr. ex Marsh.) to fertigation. 22nd Session International Poplar Commission, The Contribution of poplars and willows to sustainable forestry and rural development, Santiago, Chile 29 Nov-2 Dec 2004; p. 118 [Abstract]

Stanturf, Bland, Samuelson, Leininger, Burke. 2004. Three-year growth response of four clones of eastern cottonwood (*Populus deltoides* Bartr. ex Marsh.) to fertigation. Biomass and bioenergy production for economic and environmental benefits, Short Rotation Woody Crops Operations Working Group Biennial Meeting, Charleston, SC November 2004; p. 59 [Abstract]

***Stanturf, J.A., Fowler, C.T., Reitz, R.,** Finley, J.C., Neznec, R., Araman, P. 2005. How managers obtain new technical information: Knowledge acquisition by professional foresters in the United States. *International Forestry Review* 7(5): 160-161. [Abstract]

***Stanturf, J., Y.-Q. Liu, R. DiCosty and M. Callaham.** 2005. Effects of fire on forest soils and potential remote sensing applications. *Proc. of EastFire*, Fairfax, VA, 11-13 May 2005. (Available on CD-ROM)

Wade, D., Brenner, J., Anderson, J., Graham, H., **Goodrick, S.,** Gorden, R., Hebb, M., Kern, J., Kuypers, M., Miller, S., Mousel, K., Proctor, T., and Voltolina, D. 2004. Some considerations when prescribed burning at the Wildland-Urban Interface. *Tall Timbers Fire Ecology Conference Proceedings* 22:318 [Abstract]

FY 2006 Publications (* denotes new publication this month)

Refereed Journals and Book Chapters

***Jordan, L., Daniels, R.F., Clark, A. III,** He, R. 2005. Multilevel nonlinear mixed-effects models for the modeling of earlywood and latewood microfibril angle. *Forest Science* 51(4): 357-371.

***Liu, Y.-Q.,** Fu, R., Dickinson, R. 2005. Smoke aerosols altering South American monsoon. *Bulletin American Meteorological Society* 86(8): 1062-1063.

***Qu, J., Hao, X., Yang, R., Sommers, W., Dasgupta, S., Bhoi, S., Kafatos, M., Liu, Y.-Q., Achtemeier, G., Riebau, A.R., Coronado, P.** 2005. Bridging Earth observations: remote sensing measurements, fire modeling, and air quality decision support system in the eastern United States. *Earth Observation Magazine* 14 (6).

Hurricanes are part of southern history, remembered for the damage they caused.

Nicholas Sparks, Author

***Rhy, Soung-Ryoul, Chen, Jiquan, Crow, Thomas R., Saunders, Sari. C.** 2004. Available fuel dynamics in nine contrasting forest ecosystems in North America. *Environmental Management Vol. 33, Supplement 1*, pp. 87-107.

***Saunders, S.C.,** J. Chen, T.D. Drummer, E.J. Gustafson, and K.D. Brosofske. 2005. Identifying scales of pattern in ecological data: A comparison of lacunarity, spectral and wavelet analyses. *Ecological Complexity* 2: 87-105.

***Schulte, Lisa A.** and Mladenoff, David J. 2005. Severe wind and fire regimes in northern forests: Historical variability at the regional scale. *Ecology*, 86(2): 431-445.

Proceedings and Reports

***Schoenholtz, S.H., Stanturf, J.A.,** Allen, J.A., Schweitzer, C.J. 2005. Afforestation of agricultural lands in the Lower Mississippi Alluvial Valley: The state of our understanding. pp. 413-432. In L.H. Fredrickson, S.L. King, and R. M. Kaminski, eds. *Ecology and Management of Bottomland Hardwood Systems: The State of our Understanding*. University of Missouri-Columbia. *Gaylord Memorial Laboratory Special Publication No. 10*. Puxico, MO.

Abstracts and Posters

***Callaham, M.A.,** Richter, D.D., Hofmockel, M. 2005 Long-term land use effects on soil invertebrate communities in Southern Piedmont soils. Ecological Society of America annual meeting, 8-11 August, Montréal, Canada [Poster]

***Outcalt, K.W., Wade, D.** 2005. Response of a mixed longleaf (*Pinus palustris*) and loblolly pine (*Pinus taeda*) community to long-term dormant season prescribed burning. Ecological Society of America annual meeting, 8-11 August, Montréal, Canada [Poster]



Upcoming Events:

2005

Sep 9-10 Pre-Conference Workshop in association with Pedometrics 2005 Conference, Gainesville, FL.
<http://conference.ifas.ufl.edu/pedometrics/#optional>

Sep 10-12 European Forestry Institute annual conference and Scientific Seminar "Multifunctional Forest Ecosystem Management in Europe: Integrated approaches for considering the temporal, spatial and scientific dimensions" Centre Tecnològic Forestal de Catalunya (CTFC), Barcelona, Spain

Sep 12-14 Pedometrics 2005: Frontiers in Pedometrics, Naples, FL.
<http://conference.ifas.ufl.edu/pedometrics/>

Sep 12-16 Fire Prevention - Wildland Urban Interface Exchange Workshop, Birmingham, AL; postponed from May



Upcoming Events:

Sep 12-14	Southern Roundtable on Sustainable Forests Fall Conference, Asheville, NC; contact jenniferhayes@fs.fed.us	Arlington, Virginia; www.climatescience.gov/workshop2005/papers/index.php?authorsInstructions=1 .
Sep 12-18	Society for Ecological Restoration 17th International Conference, Zaragoza, Spain. http://www.ecologicalrestoration.net	Nov 15-17 Fire in Eastern Oak Forests: Delivering Science to Managers, Ohio State University, Columbus, OH; contact Matt Dickinson mbdickinson@fs.fed.us
Sep 20-21	NOAA/EPA Golden Jubilee Symposium on Air Quality Modeling and Its Applications, Durham, NC.	Dec 5-10 Forest Ecosystems in the Caribbean: Ecology to Development (from Basic Knowledge to Sustainable Management), Martinique, West Indies
Sep 25-30	MEDPINE 3: International Conference on Conservation, Regeneration and Restoration of Mediterranean Pines and their Ecosystems, MAIB, Mediterranean Agronomic Institute of Bari - Valenzano (Bari), Italy. For further information contact: Angela Inchingolo or Elvira Loiudice (loiudice@iamb.it)	2006
*Sep 26-28	Workshop on longleaf pine restoration, J.W. Jones Ecological Research Center, Ichauway, Georgia; Ken Outcalt to make two presentations.	*Jan 24-25 "Fire and Fire Surrogate Treatments for Fuel Reduction in Eastern Hardwood Forests – A Workshop for Land Managers," Asheville, NC; contact Tom Waldrop
Sep 27-Oct 1	Workshop and meeting of the Scandinavian Disturbance Network, "The scale of natural disturbances from tree to stand," sponsored by Lithuanian Forest research Institute and Institute of Forestry and Rural Engineering of Estonian Agricultural University, Vilnius and Palanga, Lithuania	Jan 29-Feb 2 American Meteorological Society Annual Meeting, Atlanta, GA; http://www.ametsoc.org/meet/annual/
*Oct 4	14th BSSRC Planning Committee Meeting, Savannah, GA. Stanturf, K. Outcalt and Breland to attend	Jan 8-12 "Ecology in an Era of Globalization: Challenges and Opportunities for Environmental Scientists in the Americas," Merida, Yucatan, Mexico; www.esa.org/mexico
Oct 9-13	2nd International Conference on Mechanisms of Organic Matter Stabilization and Destabilization in Soils, Asilomar California, http://www.data.forestry.oregonstate.edu/SoilConf	Feb 27-Mar 1 Central Hardwood Forest Conference, Knoxville, TN. http://fwf.ag.utk.edu/central/
Oct 15-20	International conference on "Metal fluxes and their stress on terrestrial ecosystems," Centro Stefano Franscini, Monte Verità, Ascona, Switzerland; http://www.waldschutz.ch/bioindic/monte_verita/	March 27-30 "Fuels Management -- How to Measure Success" conference sponsored by the International Association of Wildland Fire (IAWF), Portland, OR; www.iawfonline.org
Oct 17-19	23rd Tall Timbers Fire Ecology Conference "Fire In Grassland and Shrubland Ecosystems", Bartlesville, OK; http://www.talltimbers.org	Mar 29-Apr 2 American Society Environmental History Annual Meeting, St. Paul, Minnesota; http://www.h-net.org/~environ/ASEH/conferences.html
Oct 19-23	Society American Foresters Annual Meeting, Ft. Worth, TX, Outcalt to attend and present.	Apr 8-12 International Conference on Hydrology and Management of Forested Wetlands, New Bern, North Carolina; http://www.asae.org/imis/meeting/forestcall.cfm
Oct 25-27	The Sixth Fire and Forest Meteorology Symposium, Canmore, AB, Canada. Liu to attend.	*May 21-24 Challenges in Coastal Hydrology and Water Quality, Baton Rouge, Louisiana; http://www.cee.lsu.edu/facultyStaff/Singh_VeJay/index.html
*Oct 27	Workshop on Fuels Treatments and Restoration of Longleaf Pine, Solon Dixon Forestry and Education Center, Andalusia, AL; contact Rhett Johnson, johnsee@auburn.edu	*Jun 5-9 Fourth International Poplar Symposium, "Meeting the Needs of a Growing World through Poplar and Willow Science: Combining Traditional and Novel Approaches in the Genomic Era," Nanjing, China, IUFRO Poplar and Willow Working Party 2.08.04; http://ips2006.njfu.edu.cn/
*Nov 1-3	Joint Fire Science Program Principal Investigators meeting; was to be in New Orleans; Outcalt, Waldrop, and O'Brien to attend and present	Jul 9-15 18th World Congress of Soil Science, in Philadelphia, PA http://www.18wcso.org
Nov 6-10	Soil Science Society of American Annual Meeting, Salt Lake City, UT	*Aug 6-11 Eighth International Conference on Mercury as a Global Pollutant Madison, WI; http://www.mercury2006.org/ ; DiCosto to attend and present paper
Nov 7-11	IUFRO Tree Biotechnology 2005 Meeting, Pretoria, South Africa www.iufro.up.ac.za .	Aug 8-10 Forest and Water in a Changing Environment Beijing, China; Chinese Academy of Forestry, Beijing Forestry University and Southern Research Station.
Nov 14-16	"Climate Science in Support of Decision making" conference,	*Oct 10-13 Conference on "Sustainable Forest Management with Fast Growing Plantations", Charleston, SC; contact Dave Wear dwear@fs.fed.us

- Oct 25-29 Society American Foresters Annual Meeting, Pittsburgh, PA
- *Oct 23-27 Knowledge management in forestry conference, sponsored by KnowForAlp, hosted by Forest Research Institute Baden Württemberg, Freiburg, Germany
- Nov 12-16 Soil Science Society of American Annual Meeting, Indianapolis, IN; <http://www.indy.org>
- *Nov 13-17 3rd International Fire Ecology and Management Congress, San Diego, CA; <http://emmps.wsu.edu/firecongress/>
- Nov 27-30 V International Conference on Forest Fire Research, Coimbra, Portugal http://www.fire.uni-freiburg.de/course/meeting/meet2004_25.htm
- Feb 26-Mar 1 14th Biennial Southern Silvicultural Research Conference, Savannah, GA;
- Summer 6th North American Forest Ecology Workshop, to be held in British Columbia
- Oct 24-28 Society American Foresters Annual Meeting, Portland, OR.
- Nov 4-8 Soil Science Society of American Annual Meeting, New Orleans, LA; <http://www.neworleanscvb.com>
- 2008**
- Nov 5-9 Society American Foresters Annual Meeting, Reno, NV.



Panoramic view of thin only treatment from Fire and Fire Surrogate Study on Solon Dixon Forestry Center, AL. Watch for new 360 views on website www.srs.fs.usda.gov/solondixon.

GPRA

GPRA
GPRA

GPRA

GPRA

GPRA

GPRA -Accomplishment

Category	FY 2004 Total	FY 2005 Total	FY 2005 Total
Number of Refereed Journal Publications	20	21	6
Number of Non-Refereed Publications (include abstracts)	89	60	3
Number of Publications (refereed + non-refereed)	109	81	9
Number of Tours	41	40	6
Number of Short Courses/Training	20	13	0
Number of Invited Presentations to Scientific Organizations	12	7	2
Number of Invited Presentation to Lay Organizations	30	32	0
Volunteer Presentations to Scientific Organizations (non-GPRA	42	50	2
Number of Technology Transfer Activities (other than above)	105	132	9

SRS-4104 Project Leader's Report

John Stanturf - Editor Lynne Breland - Technical Writer
Patricia A. Outcalt - Production, Design and Layout

